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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,951	10/29/2003	Gyoo Chul Jo	8733.875.00-US	6162

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EXAMINER
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WEBB, GREGORY E

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/694,951

Applicant(s)

JO ET AL.

Examiner

Gregory E. Webb

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-25 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

4/27/05

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-5, and are rejected under 35 U.S.C. 102(e) as being anticipated by Koito et al (US 6,869,921).

Koito teaches forming and removing photoresists (see col. 1, lines 5-10). Koito teaches the use of various alcohol-like compounds including various glycol ethers (see col. 6, lines 4-34).

Art Unit: 1751

Koito teaches the common addition of alkyl benzene sulfonic acids to stripping compositions (see col. 1, lines 10-25).

Koito teaches the addition of various corrosion inhibitors in table 9 including triazoles.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ciolino et al (US 4,803,008).

Ciolino teaches cleaning composition containing surfactants and solvents (see abstract). Ciolino teaches the use of glycol ethers in the amounts ranging from 7-30% (see col. 3, lines 20-65).

Ciolino teaches the use of various surfactants including the alkylbenzene sulfonic acid type (see col. 6, lines 4-32) in amounts ranging from 0.001-5%.

Ciolino teaches various additional compounds suitable for use as corrosion inhibitors and antioxidants (see col. 7, lines 10-30).

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Mihelic et al (US 5,401,326).

Mihelic teaches microemulsion cleaning compositions. Mihelic teaches compositions containing 5-40% glycol ethers (see cols. 3-4), water, 1.5-5% anionic surfactant (see col. 3, lines 48-64).

Mihelic teaches the use of anionic surfactants including dodecyl benzene sulfonate (see col. 3, lines 10-20).

Art Unit: 1751

Mihelic teaches the addition of various corrosion inhibitors including morpholine (see examples).

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Borchert et al (US 3,653,931).

Borchert teaches composition for treating metal surfaces such as copper (see abstract). Borchert teaches suitable surfactants including doecyl benzene sulfonic acid (see col. 2, lines 3-8).

Borchert teaches the use of glycol ethers such as ocyphenyl polyethylene glycol ether and nonylphenyl polyethylene glycol ether (see col. 1, lines 65-75).

Borchert teaches the use of benzotriazole as the corrosion inhibitor (see abstract).

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Furman et al (US 6,173,776).

Furman teaches cleaning compositions for gas wells containing 1-25% glycol ether (see abstract).

Furman teaches the use of the applicant's surfactant (see claim 12) and the glycol ether (see claim 9).

Concerning the corrosion inhibitor and the triazole, Furman teaches the following:  
Other additives typically used in cleaning compositions may be used, including water softening agents, sequesterants, and corrosion inhibitors, which are added in amounts effective to perform their intended function.

Art Unit: 1751

These additives and amounts thereof are well within the skill of the art.

Suitable water softening agents include linear phosphates, styrene-maleic acid co-polymers, and polyacrylates. Suitable sequesterants include 1,3-dimethyl-2-imidazolidinone, 1-phenyl-3-isoheptyl-1,3-propanedione, and 2-hydroxy-5-nonylacetophenoneoxime. Examples of corrosion inhibitors include 2-aminomethyl propanol, diethylethanolamine benzotriazole, and methyl benzotriazole.(see col. 7, lines 8-22)

Concerning the claimed antioxidant, Furman teaches the following:

Suitable additives include terpenes, terpene alcohols, C.sub.8 -C.sub.14 alcohol ester blends, glycols, acid esters, diacid esters, petroleum hydrocarbons, amino acids, alkanolamines, and amines. Examples of terpenes include d-limonene and .alpha. and .beta. pinene and terpene alcohols, including a-terpineol. C.sub.8 -C.sub.14 alcohol ester blends include EXXATE 900, 1000, and 1300 from Exxon Chemical; glycols include propylene glycol, dipropylene glycol, and tripropylene glycol. Acid esters include methyl oleate and methyl linoleate, and diacid esters include methyl or butyl diesters of glutaric, adipic, and succinic acids. Petroleum hydrocarbons include AROMATIC 100, AROMATIC 150, ISOPAR M, and ISOPAR K.(see col. 6, lines 51-63)

*Allowable Subject Matter*

Art Unit: 1751

1. Claims 9-25 are allowed. The examiner was unable to find the specific combination of ingredients, namely the alkylbenzene sulfonic acid in combination with the glycol ether and corrosion inhibitor in the weight percentages required by this claim for the specific use of either fabricating a liquid crystal display, forming copper lines on a semiconductor.
2. In particular the examiner found it very uncommon to use glycol ethers in combination with the sulfonic acid in electronic processing. Although glycol ethers and sulfonic acids are commonly found in other applications such as laundry or dishwashing, the specific use of these compounds in the weight percentages required and specifically for those intended uses described in claims 9-25 would not have been anticipated by the prior art of record, nor would such modifications to the prior art of record be obvious.
3. It should also be noted that the specific combination of alkyl benzene sulfonic acid with glycol ethers and corrosion inhibitors is well-known. It is suggested that if the applicant pursues the composition that the applicant specifically recited weight percentages coupled with the specific recitation of possible compounds.<sup>1</sup>


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory E. Webb whose telephone number is 571-272-1325. The examiner can normally be reached on 9:00-17:30 (m-f).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1751

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Gregory E. Webb  
Primary Examiner  
Art Unit 1751  
6/27/05

gew